

CLAIMS:

1. A method of processing a series of mail pieces, comprising the steps of:
 - (a) scanning a surface of each mail piece with at least one imaging camera to obtain at least one image of the surface represented by image data;
 - (b) analyzing the image data to locate a destination bar code in the image;
 - 5 (c) analyzing the bar code to recognize a first destination code;
 - (d) if the first destination code meets predetermined criteria, then processing the mail piece further in a manner dependent on the first destination code;
 - (e) if the first destination code cannot be recognized or fails to meet the predetermined criteria, then analyzing the image data to locate destination address lines in
- 10 the image, analyzing the address lines to determine a second destination code, and processing the mail piece further in a manner dependent on one of the second destination code, or a result determined by arbitrating the first and second destination codes.
2. The method of claim 1, wherein the further processing comprises sorting the mail piece.
3. The method of claim 2, wherein at least about 1% of mail pieces processed are sorted based on the second destination code.
4. The method of claim 2, wherein when a mail piece destination cannot be sufficiently identified from either the first or second destination codes, the method further comprises:
 - 5 creating a scannable identification code on the mail piece surface;
 - storing the scanned image of the mail piece in computer accessible form together with the associated identification code; and
 - sorting the mail piece to a reject bin for unreadable mail pieces.

5. The method of claim 2, further comprising:
 - determining if the mail piece bears an ID tag associated with that mail piece in previous postal processing;
 - if such an ID tag is identified, retrieving a third destination code associated with the identification code from a computer accessible storage medium; and
 - sorting the mail piece based on the retrieved third destination code.
6. The method of claim 2, further comprising:
 - conveying a series of the mail pieces on a conveyor; and
 - carrying out steps (a) to (e) concurrently for more than one mail piece at a time as the mail pieces are moving on the conveyor.
7. The method of claim 6, wherein the conveyor transports the mail pieces past a series of diverters used for sorting the mail pieces, further comprising completing steps (a) to (e) for each mail piece before each mail piece reaches a first one of the diverters.
8. The method of claim 6, further comprising buffering the image data in a computer memory as one of a series of images for successive mail pieces.
9. The method of claim 6, further comprising carrying out step (e) only upon completion of steps (b) thru (d) when the first destination code cannot be recognized or fails to meet the predetermined criteria.
10. The method of claim 6, further comprising initiating step (e) in parallel with steps (b) thru (d).

11. The method of claim 10, further comprising:
 - terminating step (e) when it is determined that the first destination code meets the predetermined criteria; and
 - continuing step (e) to completion when the first destination code cannot be
- 5 recognized or fails to meet the predetermined criteria.

12. The method of claim 1, wherein step (e) further comprises:
 - analyzing the image data to determine if a predetermined data pattern, other than a bar code or address lines, associated with a destination is present;
 - if such a data pattern is present, determining a corresponding third destination code
- 5 for the destination associated with the pattern; and
- processing the mail piece further in a manner dependent on the third destination code.

13. The method of claim 1, wherein step (e) further comprises printing a bar code on the mail piece, which bar code embodies a scannable destination code which is the second destination code or the result determined by arbitrating the first and second destination codes.

14. The method of claim 1, further comprising
 - scanning a surface of each mail piece with a first imaging camera to obtain a first image of the surface represented by first image data;
 - scanning a surface of each mail piece with a second imaging camera to obtain a
- 5 second image of the surface represented by first image data;
- carrying out steps (b)-(d) using the first image data; and
- carry out step (e) using the second image data.

15. An apparatus for sorting a series of mail pieces, comprising:
 - a conveyor which transports a series of mail pieces;
 - a series of diverters which are each operable to divert mail pieces from the conveyor to one of a series of sorting destinations;
- 5 an imaging camera positioned proximate the conveyor for scanning a surface of each mail piece to obtain an image of the surface represented by image data; and
- a computerized control system for analyzing the image data to locate a destination bar code in the image, analyzing the bar code to recognize a first destination code, if the first destination code meets predetermined criteria, then sorting the mail piece by actuating
- 10 one of the diverters in a manner dependent on the first destination code, and if the first destination code cannot be recognized or fails to meet the predetermined criteria, then analyzing the image data to locate destination address lines in the image, analyzing the address lines to determine a second destination code, and sorting the mail piece by actuating one of the diverters in a manner dependent on one of the second destination code,
- 15 or a result determined by arbitrating the first and second destination codes.

16. The apparatus of claim 15, further comprising:
 - a first sensor located proximate the conveyor and imaging camera able to sense a mail piece passing by;
 - 5 a second sensor located proximate the conveyor and upstream from a first one of the diverters; and
 - wherein the computerized control system further comprises means for terminating processing of image data and providing a sorting decision when a mail piece detected by the first sensor is then detected by the second sensor.

17. The apparatus of claim 16, wherein the sensors are photocells.
18. The apparatus of claim 16, wherein the computerized control system further comprises a memory buffer for storing image data from a plurality of mail pieces in transit between the first and second sensors.